Amendment to the Claims:

1. (Currently Amended) A ~~system for~~ magnetic resonance imaging system, comprising:

[[-]] a substantially cylindrical cavity[[;]] which receives a subject to be examined, [[- wherein]] the cavity ~~has~~ having an axis of symmetry in the direction of a z-axis; [[- wherein a subject can be examined within the cavity;]]

[[-]] wherein the subject has a conductance which is not isotropic in an xy-plane which is perpendicular to the z-axis;

~~wherein~~ an electrically conductive material ~~is placed~~ disposed within the cavity, ~~wherein~~ the electrically conductive material ~~has~~ having a an electrical conductivity and a thickness which render ~~the~~ a total electrical conductance in the xy-plane within the cavity ~~to be~~ isotropic.

2. (Currently Amended) The system according to claim 1, wherein the system is a magnetic resonance imaging apparatus or a radio frequency coil for magnetic resonance imaging and wherein improving isotropicity of the electrical conductance improves homogeneity of RF fields.

3. (Currently Amended) The system according to claim 2, wherein the electrically conductive material includes a strip attached to an upper inner wall of the cylindrical cavity and not along side walls of the cylindrical cavity.

4. (Currently Amended) The system according to claim 1, wherein at least a part of the electrically conductive material is attached to a bottom of a substantially planar surface on which the subject ~~can be~~ is positioned.

5. (Previously Presented) The system according to claim 4, wherein the substantially planar surface is part of a patient's bed.

6. (Currently Amended) The [[A]] system according to claim 3, wherein the electrically conductive material is removably attached within the cavity.

7. (Currently Amended) The system according to claim 1, wherein the electrically conductive material extends along and above or below a surface on which the subject is supported in the cavity.

8. (Currently Amended) The [[A]] system according to claim 1, wherein the electrically conductive material has a planar resistance between about 5 ohms (Ω) and about 20 ohms (Ω).

9. (Currently Amended) The system according to claim 7, wherein the electrically conductive material is above the subject and has a planar resistance between about 5 ohms (Ω) and about 10 ohms (Ω).

10. (Currently Amended) The system according to claim 7, wherein the electrically conductive material is below the subject and has a planar resistance between about 12 ohms (Ω) and about 16 ohms (Ω).

11. (Currently Amended) The system according to claim 1, wherein the electrically conductive material includes a flexible sheet configured to be laid on or under the subject, the sheet being covered by a conductive layer.

12. (Previously Presented) The system according to claim 11, wherein only predetermined parts of the sheet are covered by a conductive layer.

13. (Previously Presented) The system according to claim 1, wherein it is arranged to operate with magnetic fields at or above 3 tesla.

14. (Previously Presented) A magnetic resonance imaging system comprising:

an examination region which receives a region of a subject to be imaged, which subject has an asymmetry in conductance in a cross sectional plane due to a first cross sectional dimension that is greater than a second cross sectional dimension;

an RF coil assembly for generating RF excitation (B_1) fields, the asymmetry in the conductance of the imaged subject causing an inhomogeneity in the generated RF excitation (B_1) fields;

an electrically conductive material disposed along the second cross sectional dimension, the electrically conductive material having an electrical conductivity which renders the conductance of the subject more symmetric reducing the inhomogeneity in the RF excitation (B_1) fields.

15. (Currently Amended) The magnetic resonance imaging system according to claim 14 wherein the second dimension is generally vertical and the electrically conductive material includes a an electrically conductive sheet which is placed on or under the subject.

16. (Currently Amended) The magnetic resonance imaging system according to claim 15 wherein the electrically conductive sheet includes a carbon coating.

17. (Currently Amended) The magnetic resonance imaging system according to claim 14 wherein the electrically conductive material includes an electrically conductive strip mounted at least one of over and under the subject but not along sides of the subject.

18. (Currently Amended) A method of improving RF field homogeneity in magnetic resonance imaging, the method comprising:

placing a strip of electrically conductive material along a subject such that a an electrical conductance of the subject in a transverse plane is made more isotropic;

performing a magnetic resonance imaging sequence on the subject and the strip.

19. (Currently Amended) The method according to claim 18 wherein the subject is larger in a transverse width dimension than a transverse height dimension, the method further including:

removably laying a the strip of electrically conductive material along at least one of an upper and lower surface of the subject, and not along sides of the subject.

20. (Previously Presented) The method according to claim 18 wherein the subject when positioned for the magnetic resonance imaging sequence has a vertical dimension which is less than a horizontal dimension, the method further including:

mounting the strip of electrically conductive material to MRI hardware at least one of above and below the subject and not along sides of the subject.